

ABSTRACT OF THE DISCLOSURE

An composition exhibiting a desired value of magnetic susceptibility, which can be used to fabricate components in an NMR device, and method thereof, wherein the composition
5 comprises a metal ion selected from the group consisting of Gd^{+3} , Fe^{+3} and Mn^{+2} and an amorphous material using a ligand or chelating agent to solubilize the metal ion throughout the amorphous material, wherein the magnetic susceptibility of the composition exhibits a desired value at cryogenic temperatures such as nearly zero susceptibility at temperatures at or below $77^{\circ} K$.